

University of Groningen

Regional labour markets in a cross-country perspective

Zeilstra, Annette Sophia

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2008

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Zeilstra, A. S. (2008). *Regional labour markets in a cross-country perspective*. [Thesis fully internal (DIV), University of Groningen]. PrintPartners Ipskamp B.V., Enschede, The Netherlands.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

References

- Abbring, J. H., Van den Berg, G. J., & Van Ours, J. C. (2005). The effect of unemployment insurance sanctions on the transition rate from unemployment to employment. *The Economic Journal*, 115, 602–630.
- Aghion, P., & Howitt, P. (1994). Growth and unemployment. *The Review of Economic Studies*, 61, 477–494.
- Aidt, T., & Tzannatos, Z. (2002). *Unions and collective bargaining: Economic effects in a global environment*. Washington, D.C.: The World Bank.
- Alvarez, F., & Veracierto, M. (2001). Severance payments in an economy with frictions. *Journal of Monetary Economics*, 47, 477–498.
- Amemiya, T. (1985). *Advanced econometrics*. Cambridge MA: Harvard University Press.
- Anselin, L. (1988). *Spatial econometrics: Methods and models*. Dordrecht: Kluwer.
- Ashenfelter, O., & Heckman, J. J. (1974). The estimation of income and substitution effects in a model of family labor supply. *Econometrica*, 42, 73–85.
- Atkinson, A. B., & Micklewright, J. (1991). Unemployment compensation and labor market transitions: A critical review. *Journal of Economic Literature*, 29, 1679–1727.
- Baddeley, M., Martin, R., & Tyler, P. (1998a). European regional unemployment disparities: Convergence or persistence? *European Urban and Regional Studies*, 5, 195–215.
- Baddeley, M., Martin, R., & Tyler, P. (1998b). European regional unemployment disparities: Convergence or persistence? *European Urban and Regional Studies*, 5, 195–215.
- Balestra, P., & Negassi, S. (1992). A random coefficient simultaneous equation system with an application to direct foreign investment

- by French firms. *Empirical Economics*, 17, 205–220.
- Barrell, R., & Genre, V. (1999). Employment strategies for Europe: Lessons from Denmark and the Netherlands. *National Institute Economic Review*, 168, 82–98.
- Bauman, J., Fischer, M. M., & Schubert, U. (1988). A choice-theoretical labour-market model: Empirical tests at the mesolevel. *Environment and Planning A*, 20, 1085–1102.
- Becker, G. (1965). A theory of the allocation of time. *Economic Journal*, 75, 493–517.
- Bellmann, L., & Blien, U. (1996). Die Lohnkurve in den neunziger Jahren: Der Zusammenhang zwischen regionalen Durchschnittslöhnen und regionaler Arbeitslosigkeit in einer Mehrebenenanalyse mit dem IAB-betriebspanel. *Mitteilungen-aus-der-Arbeitsmarkt-und-Berufsforschung*, 29, 467–470.
- Bellmann, L., & Blien, U. (2001). Wage curve analyses of establishment data from Western Germany. *Industrial and Labor Relations Review*, 54, 851–863.
- Belot, M., & Van Ours, J. C. (2001). Unemployment and labor market institutions: An empirical analysis. *Journal of the Japanese and International Economies*, 15, 403–418.
- Belot, M., & Van Ours, J. C. (2004). Does the recent success of some OECD countries in lowering their unemployment rates lie in the clever design of their labor market reforms? *Oxford Economic Papers*, 56, 621–642.
- Ben-Porath, Y. (1973). Labor-force participation rates and the supply of labor. *The Journal of Political Economy*, 81, 697–704.
- Berg, G. J. Van der. (1990). Search behaviour, transitions to non-participation and the duration of unemployment. *The Economic Journal*, 100(402), 842–865.
- Blanchard, O., & Wolfers, J. (2000). The role of shocks and institutions in the rise of European unemployment: the aggregate evidence. *The Economic Journal*, 110, C1–C33.
- Blanchflower, D. G., & Oswald, A. J. (1994). *The wage curve*. London: MIT Press.
- Blanchflower, D. G., & Oswald, A. J. (1995). An introduction to the wage curve. *The Journal of Economic Perspectives*, 9, 153–167.
- Blau, F., & Kahn, L. (1999). Institutions and laws in the labor market. In O. Ashenfelter & D. Card (Eds.), *Handbook of labor economics*

- (Vol. 3A, pp. 1399–1461). Amsterdam: Elsevier Science Publishers BV.
- Blien, U. (1995). Die Lohnkurve von 1989: Eine Mehrebenenanalyse zum Zusammenhang von regionalen Durchschnittslöhnen und der regionalen Arbeitslosenquote. *Mitteilungen-aus-der-Arbeitsmarkt-und-Berufsforschung*, 28, 155–170.
- Blien, U. (1996). Die Lohnkurve in den achtziger Jahren: Eine Mehrebenenanalyse mit der IAB-Beschäftigtenstichprobe. *Mitteilungen-aus-der-Arbeitsmarkt-und-Berufsforschung*, 29, 471–474.
- Blöndel, S., & Scarpetta, S. (1997). Early retirement in OECD countries: The role of social security systems. *OECD Economic Studies*, 29, 7–54.
- Blöndel, S., & Scarpetta, S. (1999). *The retirement decision in OECD countries*. Paris: OECD.
- Bosworth, D., Dawkins, P., & Stromback, T. (1996). *The economics of the labour market*. Harlow: Longman.
- Bowden, R. J., & Turkington, D. A. (1984). *Instrumental variables*. United Kingdom: Cambridge University Press.
- Bowen, W. G., & Finegan, T. A. (1969). *The economics of labor force participation*. United States: Princeton University Press.
- Boyle, P., & Shen, J. (1997). Public housing and migration: A multi-level modelling approach. *International Journal of Population Geography*, 3, 227–242.
- Broersma, L., & Oosterhaven, J. (2008). *Regional labour productivity in the Netherlands: Agglomeration and congestion effects*. Forthcoming in the Journal of Regional Science.
- Brunello, G., Lupi, C., & Ordine, P. (2001). Widening differences in Italian regional unemployment. *Labour Economics*, 8, 103–129.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods*. Newbury Park: CA: Sage.
- Busing, F. M. T. A., Meijer, E., & Van der Leeden, R. (2005). *MLA. Software for multilevel analysis of data with two levels. User's guide for version 4.1*. The Netherlands: Leiden University, Department of Psychology.
- Calmfors, L. (1993). Centralisation of wage bargaining and macroeconomic performance: A survey. *OECD Economic Studies*, 21, 161–191.
- Calmfors, L., & Driffill, J. (1988). Bargaining structure, corporatism

- and macroeconomic performance. *Economic Policy*, 6, 13–61.
- Card, D. (1995). The wage curve: A review. *Journal of Economic Literature*, 33, 785–799.
- Carmeci, G., & Mauro, L. (2002). The convergence of Italian regions and unemployment: Theory and evidence. *Journal of Regional Science*, 42, 509–532.
- Cigno, A. (1990). Home-production and the allocation of time. In D. Sapsford (Ed.), *Current issues in labour economics* (pp. 7–32). London: MacMillan.
- Daveri, F., & Tabellini, G. (2000). Unemployment, growth and taxation in industrial countries. *Economic Policy*, 30, 47–104.
- Daveri, F., Tabellini, G., Bentolila, S., & Huizinga, H. (2000). Unemployment, growth and taxation in industrial countries. *Economic Policy*, 15, 47–88.
- Davidson, R., & MacKinnon, J. G. (1993). *Estimation and inference in econometrics*. New York: Oxford University Press.
- De Leeuw, J., & Kreft, I. G. G. (1995). Questioning multilevel models. *Journal of Educational and Behavioural Statistics*, 20, 171–189.
- Dempster, A. P., Laird, N. M., & Rubin, D. B. (1977). Maximum likelihood from incomplete data via the EM algorithm. *Journal of the Royal Statistical Society, Series B*, 39, 1–38.
- Dempster, A. P., Rubin, D. B., & Tsutakawa, R. K. (1981). Estimation in covariance components models. *Journal of the American Statistical Association*, 76, 341–353.
- Di Tella, R., & MacCulloch, R. (2005). The consequences of labor market flexibility: Panel data evidence based on survey data. *European Economic Review*, 49, 1225–1259.
- Dolado, J., Kramarz, F., Machin, S., Manning, A., Margolis, D., Teulings, C., et al. (1996). The economic impact of minimum wages in Europe. *Economic Policy*, 11, 317–372.
- Draper, D. (1995). Inference and hierarchical modeling in the social sciences. *Journal of Educational and Behavioral Statistics*, 20, 115–147.
- Duncan, C., Jones, K., & Moon, G. (1998). Context, composition and heterogeneity: Using multilevel models in health research. *Social Science and Medicine*, 46, 97–117.
- Duval, R. (2003). Retirement behaviour in OECD countries: Impact of old-age pension schemes and other social transfer programmes.

- OECD Economic Studies*, 37, 7–50.
- Elhorst, J. P. (1993). *Regional economic research on labour force participation* (Research Memorandum No. 542). Groningen, The Netherlands: University of Groningen, Institute of Economic Research.
- Elhorst, J. P. (1996). Regional labour market research on participation rates. *Journal of Economic and Social Geography*, 87, 209–221.
- Elhorst, J. P. (2001). Dynamic models in space and time. *Geographical Analysis*, 33, 119–140.
- Elhorst, J. P. (2003a). The mystery of regional unemployment differentials: Theoretical and empirical explanations. *Journal of Economic Surveys*, 17, 709–748.
- Elhorst, J. P. (2003b). Specification and estimation of spatial panel data models. *International Regional Science Review*, 26, 244–268.
- Elhorst, J. P., & Zeilstra, A. S. (2007). Labour force participation rates at the regional and national levels of the European Union: An integrated analysis. *Papers in Regional Science*, 86, 525–549.
- Elman, C. (1996). Pensions, households, and local labor markets: The shaping of old-age economic activity in 1910. *Social Science Research*, 25, 308–334.
- Elmeskov, J., Martin, J. P., & Scarpetta, S. (1998). Key lessons for labour market reforms: evidence from OECD countries' experiences. *Swedish Economic Policy Review*, 5, 205–252.
- European Commission. (1997). *Employment in Europe*. Brussels/Luxembourg.
- European Commission. (2000). *Employment in Europe 2000*. Brussels/Luxembourg: Office for Official Publications of the European Communities.
- European Commission. (2003). *Employment in Europe 2003*. Luxembourg: Office for Official Publications of the European Communities.
- European Council. (2005). Council decision of 12 July 2005 on guidelines for the employment policies of the Member States. *Official Journal of the European Union*, (2005/600/EC), L205/21–27.
- Eurostat. (2002). *European regional statistics changes in the NUTS classification 1981–1999*. Luxembourg: Eurostat.
- Faini, R. (1999). Trade unions and regional development. *European Economic Review*, 43, 457–474.
- Fair, R. C., & Dominguez, K. M. (1991). Effects of the changing

- U.S. age distribution on macroeconomic equations. *The American Economic Review*, 81, 1276–1294.
- Ferron, J. (1997). Moving between hierarchical modeling notations. *Journal of Educational and Behavioral Statistics*, 22(1), 119–123.
- Fitoussi, J. P., Jestaz, D., Phelps, E. S., & Zoega, G. (2000). Roots of the recent recoveries: Labor reforms or private sector forces? *Brookings Papers on Economic Activity*, 1, 237–291.
- Fleisher, B. M., & Rhodes, G. (1976). Unemployment and the labor force participation of married men and women: A simultaneous model. *The Review of Economics and Statistics*, 58(4), 398–406.
- Frees, E. W. (2004). *Longitudinal and panel data*. United Kingdom: Cambridge University Press.
- Goldstein, H. (1986). Multilevel mixed linear model analysis using iterative generalized least squares. *Biometrika*, 73(1), 43–56.
- Goldstein, H. (1989). Restricted unbiased iterative generalized least-squares estimation. *Biometrika*, 76(3), 622–623.
- Goldstein, H. (1995). *Multilevel statistical models, second edition*. London: Edward Arnold.
- Goldstein, H. (2003). *Multilevel statistical models, third edition*. New York: Arnold/Oxford University Press.
- Goldstein, H., Browne, W., & Rasbash, J. (2002). Tutorial in biostatistics: Multilevel modelling of medical data. *Statistics in Medicine*, 21, 3291–3315.
- Goldstein, H., Healy, M. J. R., & Rasbash, J. (1994). Multilevel time series models with applications to repeated measures data. *Statistics in Medicine*, 13, 1643–1655.
- Goldstein, H., & Rasbash, J. (1992). Efficient computational procedures for the estimation of parameters in multilevel models based on iterative generalised least squares. *Computational Statistics & Data Analysis*, 13, 63–71.
- Gould, M. I., & Fieldhouse, E. (1997). Using the 1991 census SAR in a multilevel analysis of male unemployment. *Environment and Planning A*, 29, 611–628.
- Graham, J. W., & Green, C. A. (1984). Estimating the parameters of a household production function with joint products. *The Review of Economics and Statistics*, 66, 277–282.
- Greene, W. H. (1997). *Econometric analysis, third edition*. New Jersey: Prentice-Hall.

- Greene, W. H. (2003). *Econometric analysis, fifth edition*. New Jersey: Prentice Hall.
- Gustman, A. L., & Steinmeier, T. L. (1986). A structural retirement model. *Econometrica*, 54(3), 555–584.
- Hartley, M. J., & Revankar, N. S. (1974). Labor supply under uncertainty and the rate of unemployment. *The American Economic Review*, 64(1), 170–175.
- Hazari, B. R., & Sgro, P. M. (1987). Disguised, urban unemployment and welfare in a general equilibrium model with segmented labor markets. *Journal of Regional Science*, 27, 461–475.
- Heckman, J. J. (1978). A partial survey of recent research on the labor supply of women. *The American Economic Review*, 68(2), 200–207.
- Hox, J. J. (1995). *Applied multilevel analysis*. Amsterdam: TT-Publikaties.
- Hox, J. J. (1998). Multilevel modeling: When and why. In R. M. Balderjahn I. & M. Schader (Eds.), *Classification, data analysis and data highways* (pp. 147–154). New York: Springer Verlag.
- Hox, J. J. (2002). *Multilevel analysis*. New Jersey: Lawrence Erlbaum Associates.
- Hsiao, C., & Tahmiscioglu, A. K. (1997). A panel analysis of liquidity constraints and firm investment. *Journal of the American Statistical Association*, 92(438), 455–465.
- Isserman, A., Taylor, C., Gerking, S., & Schubert, U. (1986). Institutions and laws in the labor market. In P. Nijkamp (Ed.), *Handbook of regional and urban economics* (Vol. I, pp. 543–580). Amsterdam: Elsevier Science Publishers BV.
- Jaccard, J., & Turrise, R. (2003). Interaction effects in multiple regression. In *Quantitative applications in the social sciences* (2nd ed.). London: Sage Publications.
- Jimeno, J. F., & Bentolila, S. (1998). Regional unemployment persistence: Spain, 1976–1994. *Labour Economics*, 5, 25–51.
- Jones, K. (1991). Multi-level models for geographical research. *Concepts and Techniques in Modern Geography*, 54.
- Kelejian, H. H. (1974). Random parameters in simultaneous equation framework: Identification and estimation. *Econometrica*, 42, 517–527.
- Kerkhofs, M., & Kooreman, P. (2003). Identification and estimation

- of a class of household production models. *Journal of Applied Econometrics*, 18, 337–369.
- Killingsworth, M. R. (1983). *Labor supply*. Cambridge: Cambridge University Press.
- Killingsworth, M. R., & Heckman, J. J. (1986). Female labor supply: A survey. In O. C. Ashenfelter & R. Layard (Eds.), *Handbook of labor economics* (Vol. I, pp. 103–204). Amsterdam: Elsevier Science Publishers BV.
- Kreft, I. G. G. (1996). *Are multilevel techniques necessary? An overview including simulation studies*. (Unpublished manuscript). Los Angeles, United States: California State University.
- Kreft, I. G. G., & Leeuw, J. D. (1998). *Introducing multilevel modeling*. London: Sage Publications.
- Kulu, H., & Billari, F. C. (2004). Multilevel analysis of internal migration in a transitional country: The case of Estonia. *Regional Studies*, 38, 679–696.
- Kwaak, A. (1985). *REGAMBEV: Een model voor de provinciale ontwikkeling van arbeidsmarkt en bevolking in Nederland*. Den Haag: Centraal Planbureau.
- Langford, I. H., Leyland, A. H., Rasbash, J., & Goldstein, H. (1999). Multilevel modelling of the geographical distributions of diseases. *Journal of the Royal Statistical Society, Series C*, 48(2), 253–268.
- Layard, R. (1997). Preventing long-term unemployment: An economic analysis. In D. Snower & G. de la Dehesa (Eds.), *Unemployment policy: Government options for the labour market* (pp. 333–349). Cambridge: Cambridge university press.
- Layard, R., Nickell, S., & Jackman, R. (1991). *Unemployment: Macroeconomic performance and the labour market*. Oxford: Oxford University Press.
- Lazear, P. (1990). Job security provisions and employment. *The Quarterly Journal of Economics*, 105, 699–726.
- Lee, K. C., & Pesaran, M. H. (1993). The role of sectoral interactions in wage determination in the UK economy. *The Economic Journal*, 103, 21–55.
- Lee, Y., & Nelder, J. A. (1996). Hierarchical generalized linear models. *Journal of the Royal Statistical Society. Series B*, 58(4), 619–678.
- Lewis, H. G. (1972). *Income and substitution effects in labor force participation and hours of work* (Discussion Paper No. 18). Min-

- neapolis, United States: University of Minnesota, Department of Economics, Center for Economic Research.
- Liang, K.-Y., & Zeger, S. L. (1986). Longitudinal data analysis using generalized linear models. *Biometrika*, 73(1), 13–22.
- Lindstrom, M. J., & Bates, D. M. (1988). Newton-Raphson and EM algorithms for linear mixed-effects models for repeated-measures data. *Journal of the American Statistical Association*, 83(404), 1014–1022.
- Longford, N. T. (1987). A fast scoring algorithm for maximum likelihood estimation in unbalanced mixed models with nested random effect. *Biometrika*, 74(4), 817–827.
- MacRea, C. D., & Yezer, A. M. J. (1976). The personal income tax and family labor supply. *Southern Economic Journal*, 43(1), 783–792.
- McCall, L. (1998). Spatial routes to gender wage (in)equality: Regional restructuring and wage differentials by gender and education. *Economic Geography*, 74, 379–404.
- McCulloch, C. E., & Searle, S. R. (2001). *Generalized, linear, and mixed models*. New York: Wiley.
- McKenna, C. J. (1985). *Uncertainty and the labour market: Recent developments in job search theory*. Brighton: Wheatsheaf Books.
- McLean, R. A., Sanders, W. L., & Stroup, W. W. (1991). A unified approach to mixed linear models. *The American Statistician*, 45(1), 54–64.
- Mincer, J. (1962). Labor force participation of married women: A study of labor supply. In G. H. Lewis (Ed.), *Aspects of labor economics* (pp. 63–97). United States: Princeton University Press.
- Moulton, B. R. (1990). An illustration of a pitfall in estimating the effects of aggregate variables on micro units. *Review of Economics and Statistics*, 72, 334–338.
- Narendranathan, W., Nickell, S., & Stern, J. (1985). Unemployment benefits revisited. *The Economic Journal*, 95, 307–329.
- Nickell, S. (1997). Unemployment and labor market rigidities: Europe versus North America. *Journal of Economic Perspectives*, 11, 55–74.
- Nickell, S. (1998). Unemployment: Questions and some answers. *The Economic Journal*, 108, 802–816.
- Nickell, S., & Layard, R. (1999). Labour market institutions and economic performance. In O. Ashenfelter & D. Card (Eds.), *Hand-*

- book of labor economics* (Vol. 3C, pp. 3029–3084). Amsterdam: Elsevier Science Publishers BV.
- Nickell, S., Nunziata, L., & Ochel, W. (2005). Unemployment in the OECD since the 1960s. what do we know? *The Economic Journal*, 115, 1–27.
- Nijkamp, P., & Poot, J. (2005). The last word on the wage curve? *Journal of Economic Surveys*, 19, 421–450.
- Nord, S. (1989). The relationships among labor-force participation, service-sector employment, and underemployment. *Journal of Regional Science*, 29(3), 407–421.
- OECD. (1994). *The OECD jobs study: Facts, analysis, strategies*. Paris: OECD.
- OECD. (2004). *Employment outlook*. Paris: OECD.
- OECD. (2005a). *Employment outlook*. Paris: OECD.
- OECD. (2005b). *Regions at a glance*. Paris: OECD.
- Oosterhaven, J., & Dewhurst, J. H. L. (1990). A prototype demographic model with an application to Queensland. *International Regional Science Review*, 13, 51–64.
- Oosterhaven, J., & Folmer, H. (1985). An interregional labour market model incorporating vacancy chains and social security. *Papers of the Regional Science Association*, 58, 141–155.
- Ord, K. (1975). Estimation methods for models of spatial interaction. *Journal of the American Statistical Association*, 70, 120–126.
- Overman, H. G., & Puga, D. (2002). Regional unemployment clusters. *Economic Policy*, 17, 117–147.
- Pencavel, J. (1986). Labor supply of men: A survey. In O. C. Ashenfelter & R. Layard (Eds.), *Handbook of labor economics* (Vol. I, pp. 3–102). Amsterdam: Elsevier Science Publishers BV.
- Pissarides, C. A. (1990). *Equilibrium unemployment theory*. Oxford: Blackwell.
- Rasbash, J., Steele, F., Browne, W., & Prosser, B. (2005). *A user's guide to MLwiN: Version 2.0*. Bristol: Centre for Multilevel Modelling, University of Bristol.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). London: CA: Sage.
- Raudenbush, S. W., Bryk, A. S., Cheong, Y. F., & Congdon, R. (2004). *HLM 6: Hierarchical linear and nonlinear modeling*. Lincolnwood,

- IL: Scientific Software International.
- Rice, N., Jones, A., & Goldstein, H. (1998). Multilevel models where the random effects are correlated with the fixed predictors: A conditioned iterative generalised least squares estimator (CIGLS). *Multilevel Modelling Newsletter*, 10(1), 10–14.
- Robinson, W. S. (1950). Ecological correlations and the behavior of individuals. *American Sociological Review*, 15, 351–357.
- Rodríguez, G., & Goldman, N. (1995). An assessment of estimation procedures for multilevel models with binary responses. *Journal of the Royal Statistical Society, Series A*, 158(1), 73–89.
- Røed, K., & Zhang, T. (2003). Does unemployment compensation affect unemployment duration? *The Economic Journal*, 113, 190–206.
- Sampson, R. J., Morenoff, J. D., & Earls, F. (1999). Beyond social capital: Spatial dynamics of collective efficacy for children. *American Sociological Review*, 64, 633–660.
- Sanner, H. (2003). Self-financing unemployment insurance and bargaining structure. *Labour*, 17, 229–246.
- Scarpetta, S. (1996). Assessing the role of labour market policies and institutional settings on unemployment: A cross-country study. *OECD Economic Studies*, 26, 43–98.
- Schürmann, C., & Talaat, A. (2000). *Towards a European peripherality index: Final report* (Berichte aus dem Institut für Raumplanung No. 53). Dortmund, Germany: Universität Dortmund, Institut für Raumplanung.
- Schwanen, T., Dieleman, F. M., & Dijst, M. (2004). The impact of metropolitan structure on commute behavior in the Netherlands: A multilevel approach. *Growth and Change*, 35, 304–333.
- Searle, S. R., Casella, G., & McCulloch, C. E. (1992). *Variance components*. New York: Wiley.
- Singer, J. D. (1998). Using SAS PROC MIXED to fit multilevel models, hierarchical models, and individual growth models. *Journal of Educational and Behavioral Statistics*, 24(4), 323–355.
- Sjoquist, D. L. (1976). Labor supply under uncertainty: Note. *The American Economic Review*, 66(5), 929–930.
- Snijders, T., & Bosker, R. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling*. London: CA: Sage.
- Snijders, T., & Bosker, R. J. (1993). Standard errors and sample sizes for two-level research. *Journal of Educational Statistics*, 18(3),

237–259.

- Soskice, D. (1990). Wage determination: The changing role of institutions in advanced industrialized countries. *Oxford Review of Economic Policy*, 6, 36–61.
- Spencer, N. H., & Fielding, A. (2000). An instrumental variable consistent estimation procedure to overcome the problem of endogenous variables in multilevel models. *Multilevel Modelling Newsletter*, 12(1), 4–7.
- Suedekum, J. (2004). Selective migration, union wage setting and unemployment in West Germany. *International Economic Journal*, 18, 33–48.
- Swamy, P. A. V. B. (1970). Efficient inference in a random coefficient regression model. *Econometrica*, 38(2), 311–323.
- Taylor, J., & Bradley, S. (1997a). Unemployment in Europe: A comparative analysis of regional disparities in Germany, Italy and the UK. *Kyklos*, 50, 221–245.
- Taylor, J., & Bradley, S. (1997b). Unemployment in Europe: A comparative analysis of regional disparities in Germany, Italy and the UK. *Kyklos*, 50, 221–245.
- Teulings, C., & Hartog, J. (1998). *Corporatism or competition? Labour contracts, institutions and wage structures in international comparison*. United Kingdom: Cambridge University Press.
- Toolsema, L. A., & Zeilstra, A. S. (2007). *Centralised wage bargaining and regional unemployment* (Unpublished manuscript). Groningen, The Netherlands: University of Groningen.
- Tripier, F. (2003). Can the labor market search model explain the fluctuations of allocations of time? *Economic Modelling*, 21, 131–146.
- Van de Wijngaert, R. (1994). *Trade unions and collective bargaining in the Netherlands*. Tinbergen Institute Research Series No. 78. Amsterdam: Thesis Publishers.
- Van den Berg, G. J. (1990). Search behaviour, transitions to non-participation and the duration of unemployment. *The Economic Journal*, 100, 842–865.
- Van der Leeden, R. (1998). Multilevel analysis of repeated measures data. *Quality & Quantity*, 32, 15–29.
- Van Dijk, J., Folmer, H., Herzog, H. W., & Schlottmann, A. M. (1989). Labor market institutions and the efficiency of interregional mi-

- gration: A cross-nation comparison. In J. Van Dijk, H. Folmer, H. Herzog, & A. Schlottmann (Eds.), *Migration and labor market adjustment* (pp. 61–83). Dordrecht: Kluwer Academic Publishers.
- Wang, J. (1997). Using SAS PROC MIXED to demystify the hierarchical linear model. *The Journal of Experimental Education*, 66(1), 84–93.
- Ward, C., & Dale, A. (1992). Geographical variation in female labour force participation: An application of multilevel modelling. *Regional Studies*, 26, 243–255.
- Willman, A. (2002). *Euro area production function and potential output: A supply side system approach* (European Central Bank Working Paper Series No. 153). Frankfurt am Main: European Central Bank.
- Xie, Y., & Hannum, E. (1996). Regional variation in earnings inequality in reform-era urban China. *American Journal of Sociology*, 101, 950–992.
- Yang, M., & Goldstein, H. (1996). Multilevel models for longitudinal data. In U. Engel & J. Reinecke (Eds.), *Analysis of change: Advanced techniques in panel data analysis* (pp. 191–220). Berlin: Walter de Gruyter.
- Yaniv, G. (1979). Labor supply under uncertainty: Note. *The American Economic Review*, 69(1), 203–205.
- Zeger, S. L., & Liang, K.-Y. (1986). Longitudinal data analysis for discrete and continuous outcomes. *Biometrics*, 42, 121–130.